REMARKS

Applicants thank the Examiner for a timely and careful review of the application in the Office Action mailed on September 17, 2002. Regarding the objections and rejections set forth by the Examiner, applicants request reconsideration of the application in light of the remarks contained herein.

Applicants have amended the claims to more particularly point out and distinctly claim what applicants regard as the invention. No new matter has been entered by this amendment. A marked-up version of the claims, showing changes made thereto, is attached to this Response. All amendments herein either eliminate typographical errors or place the claims in allowable condition. All amendments have been made to further the prosecution of the application. It is believed that no further searching will be required by the Examiner, as all subject matter contained in the claims has been subject to examination at least once during prosecution of the application.

The Examiner rejected claims 20-22 and 24-29 under 35 U.S.C. § 112, second paragraph, as being indefinite. With respect to claim 20, plural nodes do not make up a clique; rather, nodes selected from groups able to directly communicate with specified nodes or groups of nodes are included in a clique. For example, as recited in claim 20 the first group of nodes is defined as nodes that directly communicate with an identified node. The second group of nodes is defined as nodes that directly communicate with nodes in the first group of nodes. A clique is assigned by taking the identified node, a node in the first group of nodes, and a node in the second group of nodes that directly communicates with the previously assigned nodes in the clique. Applicants have amended the claim to more clearly recite that a clique is formed comprising the node identified in step (a), a node in a first group of nodes that communicates directly with the node identified in step (a), and a node in a second group of nodes that communicates directly with the node identified in step (a) and with the node in the first group of nodes. Accordingly, the Examiner's rejection of claim 20 and all dependent claims should therefore be withdrawn.

Applicants have amended claim 24 to recite step (a) instead of step (f). Although applicants believe that a step labeled "(f)" does not require steps (a)-(e) to be present, applicants have nonetheless made this amendment to avoid unnecessary delays to the prosecution of the application. Claims 25-27, which include similar step labels, have also been amended to be consistent with the change to claim 24. Accordingly, the Examiner's rejection to claim 24 and all claims depending therefrom should be withdrawn.

Applicants have amended claim 25 to recite that "cliques having at least as many neighboring cliques as any neighboring clique are next assigned time slots." This is fully supported at page 10 lines 25-26. Accordingly, the Examiner's rejection to claim 25 and all claims depending therefrom should be withdrawn.

The Examiner rejected claims 1, 2 and 23 as being unpatentable over U.S. Patent No. 5,719,868 to Young. Applicants respectfully traverse this rejection.

Applicants have amended claim 1 to include the subject matter of claim 20, which the Examiner has not rejected under any cited art. Furthermore, the subject matter of claim 20 is neither shown nor taught in Young or the remaining cited art. Young contains no discussion of clique assignment as recited in amended claim 1, and claim 1 is therefore allowable.

Claims 2 and 21-29 depend from allowable claim 1 and are therefore allowable for at least the same reasons claim 1 is allowable. Furthermore, neither Young nor the cited art teach or disclose:

- identifying all possible cliques to which said one of the nodes belongs by repeating steps (b), (c), and (d) until all possible combinations of nodes have been explored (claim 21);

- repeating steps (a)-(e) for each node in the network of nodes (claim 22); and

- choosing time slots for each clique according to the hierarchy recited in claims 24-29.

Therefore, claims 21-29 are allowable for these additional reasons.

-- 6 --

Applicants have added new claims 30 and 31 to the application. New claim 30 includes the subject matter of claims 1, 23 and 24. Since claim 24 was not rejected over any cited art by the Examiner, and since none of the cited references teach or disclose the hierarchy of assigning time slots to cliques as recited in claim 24, claim 30 is therefore allowable. Claim 31 includes the subject matter of claims 25-29 and is therefore allowable for at least the same reasons those claims are allowable. Additionally, claim 20 has been amended to depend from allowable claim 30. Applicants have previously explained that the subject matter of claim 20 is allowable, and claim 20 as written is therefore allowable.

Accordingly, with the entry of this amendment and upon consideration of the remarks contained herein, all pending claims are now allowable, and a Notice of Allowance is earnestly solicited. The Examiner is requested to contact the undersigned attorney if further issues remain in the prosecution of this application.

Respectfully submitted,

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-- 7 --

Application No.: 09/303,802
Docket No. 97CR159/KE

MARKED-UP VERSION

SHOWING CHANGES MADE TO THE CLAIMS

Shown below are amendments to the claims, in which bracketed material has been deleted and underlined material has been added.

IN THE CLAIMS:

Claims 1, 20-21 and 24-27 have been amended as follows:

1.   (Twice Amended) A method for automatically managing the communication channel resources between two transceiver nodes having neighboring transceiver nodes in a network of transceiver nodes, wherein each node communicates during specific time slots and uses multiple frequencies on a time multiplex basis, the method comprising:

storing possible communication time slots and frequencies between nodes in the network at each transceiver node; and

assigning each node to at least one of a plurality of cliques, wherein each of the plurality of cliques consists of a plurality of nodes that are positioned to directly communicate with each other, wherein multiple transceiver nodes in a clique utilize the same time slot for transmitting;

wherein the assigning step for each node comprises:

(a) identifying one of the nodes;

(b) identifying a first group of nodes, said first group of nodes comprising any nodes that directly communicate with the node identified in step (a);

(c) for each node in the first group of nodes, identifying a second group of nodes, said second group of nodes comprising any nodes that directly communicate with said each node in the first group of nodes; and

(d) including within a clique with the node identified in step (a)

-8-

a node in said first group of nodes, and

a node in said second group of nodes that communicates directly

with the node identified in step (a) and with said node in said first

group of nodes.

20. (Once Amended)   The method of claim [1] 30, wherein the assigning step for each node comprises:

(a) identifying one of the nodes;

(b) identifying a first group of nodes, said first group of nodes comprising any nodes that directly communicate with [said one of] the [nodes] node identified in step (a);

(c) for each node in the first group of nodes, identifying a second group of nodes, said second group of nodes comprising any nodes that directly communicate with said each node in the first group of nodes; and

(d) including within a clique with [said one of] the [nodes] node identified in step (a)

a node in said first group of nodes, and

a node in said second group of nodes that communicates directly with [said one of] the [nodes] node identified in step (a) and with said node in said first group of nodes.

21. (Once Amended) The method of claim [20] 1, further comprising:

(e) identifying all possible cliques to which said one of the nodes belongs by repeating steps (b), (c), and (d) until all possible combinations of nodes have been explored.

Application No.: 09/303,802
Docket No. 97CR159/KE

24. (Once Amended) The method of claim 23, wherein the step of choosing time slots comprises assigning time slots to the cliques according to a hierarchy wherein:

([f]a) cliques having a node that is a member of only one clique are first assigned time slots.

25. (Once Amended) The method of claim 24, wherein:

([g]b) cliques having at least as many neighboring [clique] cliques as any neighboring clique are next assigned time slots.

26. (Once Amended) The method of claim 25, wherein:

([h]c) cliques having two or more neighbors that were assigned time slots in steps ([f]a) and ([g]b) are next assigned time slots.

27. (Once Amended) The method of claim 26, wherein cliques having two or more neighbors that were assigned time slots in step ([f]a) are next assigned time slots.

-- 10 --

Application No.: 09/303,802
Docket No. 97CR159/KE

New claims 30-31 have been added to the application as follows:

30. (New) A method for automatically managing the communication channel resources between two transceiver nodes having neighboring transceiver nodes in a network of transceiver nodes, wherein each node communicates during specific time slots and uses multiple frequencies on a time multiplex basis, the method comprising:

storing possible communication time slots and frequencies between nodes in the network at each transceiver node;

assigning each node to at least one of a plurality of cliques, wherein each of the plurality of cliques consists of a plurality of nodes that are positioned to directly communicate with each other, wherein multiple transceiver nodes in a clique utilize the same time slot for transmitting; and.

choosing time slots for each clique by assigning time slots to the cliques according to a hierarchy wherein:

(a)   cliques having a node that is a member of only one clique are first assigned time slots.

31. (New) The method of claim 30, wherein:

(b)   cliques having at least as many neighboring cliques as any neighboring clique are next assigned time slots;

(c)   cliques having two or more neighbors that were assigned time slots in steps (a) and (b) are next assigned time slots;

(d)   cliques having two or more neighbors that were assigned time slots in step (a) are next assigned time slots;

(e)   cliques having a node that is not included in a clique that has previously been assigned a time slot are next assigned time slots; and

(f)   cliques that have not yet been assigned a time slot are assigned time slots.

-- 11 --